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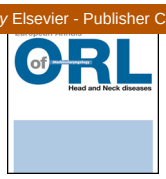

Case report

Percutaneous gastrostomy tube site pain as a manifestation of liver metastases

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ABSTRACT

Background: Complications are possible following percutaneous enteral feeding in head and neck cancer patients and otolaryngologists should be aware of these as well as the possibility of liver metastases from these cancers.
Case report: A 53-year-old lady was treated by our service for metastatic squamous cell carcinoma of unknown primary origin. During radiotherapy treatment, a percutaneous endoscopic gastrostomy (PEG) tube was inserted to facilitate patient feeding. Severe abdominal pain developed and persisted around site of PEG tube insertion, the cause of which was discovered to be newly developed liver metastases from the tumor being compressed by the tube.
Conclusion: Liver metastases should be considered in patients developing persistent abdominal pain after PEG insertion.

1. Introduction

Percutaneous endoscopic gastrostomy (PEG) tubes are an increasingly common method of long term feeding in otolaryngology patients treated for aero-digestive cancers due to swallowing problems and malnourishment. We discuss a case of severe abdominal pain developing in a patient after PEG tube placement as a first sign of liver metastases from carcinoma and review the published literature on PEG tube-associated abdominal pain.

2. Case presentation

A 53-year-old lady presented to our department in September 2012 with a right level 5 region mass. Flexible nasolaryngoscopy and the remainder of the head and neck examination were within normal limits. Positron emission tomography-computerized tomography (PET-CT) examination of the neck, thorax and abdomen confirmed the presence of 2 centrally necrotic metastatic lymph nodes within the neck; no liver metastases were detected (Fig. 1a). Fine needle aspiration cytology sampling of the neck mass revealed poorly-differentiated squamous cell carcinoma and the patient was considered to have lymph node metastases from squamous cell carcinoma of an unknown primary classified as Tx N2 M0. Following multi-disciplinary team discussion, the patient was offered treatment with 3 cycles of neo-adjuvant taxotene and cisplatin chemotherapy followed with 68 Gy of neck and pharyngeal radiotherapy in 34 fractions, over a 7-week period. In February 2013, the patient was admitted to our ward for treatment for worsening dysphasia due to pharyngeal and esophageal inflammation as a complication of radiotherapy to the neck. A PEG tube was inserted to maintain feeding. Severe abdominal pain developed instantly on tube placement, which could not be relieved by high doses of opioid analgesia. There were no clinical features of wound infection or intestinal perforation. Blood testing was within normal limits. As this pain was disproportionally strong, a further CT examination of the abdomen and pelvis was performed. This examination revealed that the PEG tube was in the correct position in the stomach and also revealed new liver metastases, previously undetected by either CT examination (Fig. 1b). The layers of the abdominal wall had abutted the liver following tube insertion, compressing the capsule of the liver that was distended by liver metastases. A liver biopsy confirmed squamous cell carcinoma metastases, which had not yet affected hepatic function either clinically or biochemically. The patient declined additional treatment for this metastatic disease and best supportive care was provided until her death 1 month later.

3. Discussion

Severe and/or persistent pain following PEG tube insertion is extremely rare. It is indicative of a complication of tube placement

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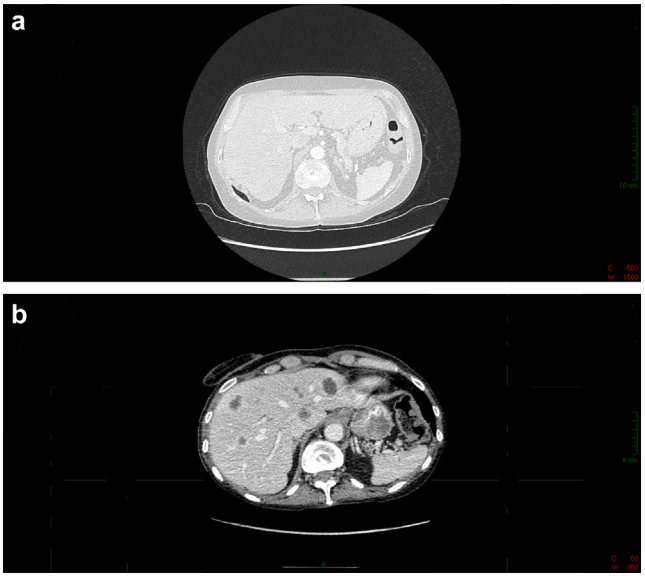

Fig. 1. a: normal liver on CT scan; b: newly detected liver metastases on CT scan.

as PEG tube insertion is usually painless and any pain that does develop is short-lived [1]. Since the development of PEG insertion in 1980 by Gauderer et al., the practice has become near-universal in maintaining feeding and nutrition in patients with either mechanical or functional impairment to swallowing [2].

Patients with dysphagia caused by tumors of the upper aerodigestive tract or following surgery or radiotherapy for head and neck cancer very often undergo PEG tube insertion to maintain nutritional intake and so it is important for head and neck surgeons to be aware of the complications of PEG tube insertion [3,4].

A number of cases of severe abdominal pain have been reported, all of which resulted due to a complication of tube insertion rather than as a manifestation of new disease. Gastric ulceration development caused by the PEG tube tip irritating the gastric mucosa has been reported as a cause of prolonged abdominal pain [5]. Feeding formula leakage through a gastric perforation has been reported by Haslam, Hughes and Harrison, with peritonitis resulting in death after the onset of abdominal pain [6]. Kasamaki et al. reported a case of severe abdominal pain after a tube exchange where the posterior stomach wall was perforated by the new tube introduced, which irritated the peritoneum directly [7]. The jejunum can be a source of abdominal pain following PEG tube insertion. Stylainides et al. discussed a case of jejunal perforation resulting in peritonitis, whilst Ishii et al. have reported jejunal intussusceptions caused by tube insertion [8].

Necrosis of tissue layers crossed by the tube can occur due to overly tight compression between the two bumpers of the gastrostomy tube, producing early-onset severe abdominal pain [9]. This may also be delayed if tube bumpers become buried [10]. Compression injury necessitates removal of the tube and the bumpers inserted. A new tube is inserted upon stabilization of the patient and resolution of complications.

4. Conclusion

We report a new manifestation of carcinoma metastases to the liver and review the causes of abdominal pain following PEG tube insertion. Otolaryngologists should be aware that severe abdominal pain after tube insertion is a sinister sign, the etiology of which is potentially fatal if untreated. Other hospital specialties should be aware of the differential diagnoses of PEG tube-related abdominal pain too. The management of such pain should include imaging of the abdomen to detect a cause before appropriate management is undertaken.

Disclosure of interest

The author declares that he has no conflicts of interest concerning this article.

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